# Unit 3: Module 4 - Nautical Science (4)

Content Area: **Social Studies**
Course(s):
Time Period: **May**
Length: **5 blocks**
Status: **Published**

## Enduring Understandings

Demonstrate an understanding of astronomy and how it pertains to our solar system and its related bodies: Moon, Sun, stars and planets

## Essential Questions

Why are there efforts to exploring the Solar System?
What are the important events in the field of astronomy and space exploration for the next 20 years?

What are the basic reasons for Moon exploration?

Why do we have a theory that was adopted for common unit of astronomical distances?

What is the system used to classify stars and why is it neccessary?

## Content

12 Astronomical Observation

NS2-M3C12S1 – Telescopes
NS2-M3C12S2 – The Radiotelescope
NS2-M3C12S3 – Satellites and Exploratory Spacecraft
13 The Moon NS2-M3C13S1 – The Moon

17 The Stars NS2-M3C17S1 – The Stars

## Skills

- State the theories of the creation of the universe
- List the methods for astronomical observation
- The methods for using the telescope
- Identify the types of telescopes
- State the important events in the field of astronomy and space exploration in the next 20 years

- The discovery and development of the radiotelescope
- Identify the methods for using balloon observatories
- The efforts in exploring the Solar System
- Basic facts about the Moon such as size, distance from Earth and atmosphere
- The geographical structure of the Moon
- The surface features of the Moon
- How the Moon's motion causes its phases
- The basic reasons for Moon exploration
- The theory adopted as the common unit of astronomical distances
- The system used to classify stars
- The method used for determining a star's brightness
- The life cycle of a star

## Resources

http://www.njrotc.navy.mil/curriculum.html

Naval Science II Maritime History, Leadership, and Nautical Sciences for the NJROTC 3rd Edition

## Standards

Reading: Informational Text
RI.9-10.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly…

Writing
W.9-10.1. Write arguments to support claims in an analysis of substantive topics or texts…
W.9-10.2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately…
W.9-10.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Speaking & Listening
SL.9-10.1. Initiate and participate effectively in a range of collaborative discussions…
SL.9-10.2. Integrate multiple sources of information presented in diverse media or formats…
SL.9-10.6. Adapt speech to a variety of contexts and tasks…

Language
L.9-10.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
L.9-10.4. Determine or clarify the meaning of unknown and multiple-meaning words and…

L.9-10.6. Acquire and use accurately general academic and domain-specific words and phrases…

College, Career, and Civic Life (C3) – Frameworks for Social Studies State Standards**

Dimension 2. History
D2.His.3.9-12. Use questions generated about individuals and groups to assess how the significance of their actions changes over time and is shaped by the historical context.
D2.His.5.9-12. Analyze how historical contexts shaped and continue to shape people's perspectives.
D2.His.14.9-12. Analyze multiple and complex causes and effects of events in the past.

Next Generation Science Standards (NGSS)
HS.Space Systems
HS-ESS1-1. Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy that eventually reaches Earth in the form of radiation.
HS-ESS1-2. Construct an explanation of the Big Bang theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.

HS.History of Earth
HS-ESS1-6. Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.
HS.Waves and Electromagnetic Radiation
HS-PS4-5. Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.*